

SEQUENCE LISTING

- (1) GENERAL INFORMATION:
 - (i) APPLICANT: Trustees of the University of Pennsylvania Wilson, James M. Fisher, Krishna J.
 - (ii) TITLE OF INVENTION: Method for Recombinant Adeno-Associated Virus-Directed Gene Therapy
 - (iii) NUMBER OF SEQUENCES: 4
 - (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Howson and Howson
 - (B) STREET: Spring House Corporate Cntr, PO Box 457
 - (C) CITY: Spring House
 - (D) STATE: Pennsylvania
 - (E) COUNTRY: USA
 - (F) ZIP: 19477
 - (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
 - (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: WO
 - (B) FILING DATE:
 - (C) CLASSIFICATION:
 - (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/708,188
 - (B) FILING DATE: 06-SEP-1996
 - (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/729,061
 - (B) FILING DATE: 10-OCT-1996
 - (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Kodroff, Cathy A.
 - (B) REGISTRATION NUMBER: 33,980
 - (C) REFERENCE/DOCKET NUMBER: GNVPN.019CIP2PCT
 - (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 215-540-9200
 - (B) TELEFAX: 215-540-5818
- (2) INFORMATION FOR SEQ ID NO:1:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10398 base pairs

 - (B) TYPE: nucleic acid (C) STRANDEDNESS: double
 - (D) TOPOLOGY: unknown
 - (ii) MOLECULE TYPE: cDNA





(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:	
GAATTCGCTA GCATCATCAA TAATATACCT TATTTTGGAT TGAAGCCAAT ATGATAATGA	60
GGGGTGGAG TTTGTGACGT GGCGCGGGGC GTGGGAACGG GGCGGGTGAC GTAGTAGTGT	120
GGCGGAAGTG TGATGTTGCA AGTGTGGCGG AACACATGTA AGCGACGGAT GTGGCAAAAG	180
TGACGTTTTT GGTGTGCGCC GGTGTACACA GGAAGTGACA ATTTTCGCGC GGTTTTAGGC	240
GGATGTTGTA GTAAATTTGG GCGTAACCGA GTAAGATTTG GCCATTTTCG CGGGAAAACT	300
GAATAAGAGG AAGTGAAATC TGAATAATTT TGTGTTACTC ATAGCGCGTA ATATTTGTCT	360
AGGGAGATCT GCTGCGCGCT CGCTCGCTCA CTGAGGCCGC CCGGGCAAAG CCCGGGCGTC	420
GGGCGACCTT TGGTCGCCCG GCCTCAGTGA GCGAGCGAGC GCGCAGAGAG GGAGTGGCCA	480
ACTCCATCAC TAGGGGTTCC TTGTAGTTAA TGATTAACCC GCCATGCTAC TTATCTACAA	540
TTCGAGCTTG CATGCCTGCA GGTCGTTACA TAACTTACGG TAAATGGCCC GCCTGGCTGA	600
CCGCCCAACG ACCCCCGCCC ATTGACGTCA ATAATGACGT ATGTTCCCAT AGTAACGCCA	660
ATAGGGACTT TCCATTGACG TCAATGGGTG GAGTATTTAC GGTAAACTGC CCACTTGGCA	720
GTACATCAAG TGTATCATAT GCCAAGTACG CCCCCTATTG ACGTCAATGA CGGTAAATGG	780
CCCGCCTGGC ATTATGCCCA GTACATGACC TTATGGGACT TTCCTACTTG GCAGTACATC	840
TACGTATTAG TCATCGCTAT TACCATGGTG ATGCGGTTTT GGCAGTACAT CAATGGGCGT	900
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AACCGTCAGA TCGCCTGGAG ACGCCATCCA CGCTGTTTTG ACCTCCATAG AAGACACCGG	1140
GACCGATCCA GCCTCCGGAC TCTAGAGGAT CCGGTACTCG AGGAACTGAA AAACCAGAAA	1200
GTTAACTGGT AAGTTTAGTC TTTTTGTCTT TTATTTCAGG TCCCGGATCC GGTGGTGGTG	1260
CAAATCAAAG AACTGCTCCT CAGTGGATGT TGCCTTTACT TCTAGGCCTG TACGGAAGTG	1320
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GAGCCTGCTA AAGCAAAAAA GAAGTCACCA TGTCGTTTAC TTTGACCAAC AAGAACGTGA	1440
TTTTCGTTGC CGGTCTGGGA GGCATTGGTC TGGACACCAG CAAGGAGCTG CTCAAGCGCG	1500
ATCCCGTCGT TTTACAACGT CGTGACTGGG AAAACCCTGG CGTTACCCAA CTTAATCGCC	1560
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CTTCCCAACA GTTGCGCAGC CTGAATGGCG AATGGCGCTT TGCCTGGTTT CCGGCACCAG	1680
AAGCGGTGCC GGAAAGCTGG CTGGAGTGCG ATCTTCCTGA GGCCGATACT GTCGTCGTCC	1740
CCTCAAACTG GCAGATGCAC GGTTACGATG CGCCCATCTA CACCAACGTA ACCTATCCCA	1800
TTACGGTCAA TCCGCCGTTT GTTCCCACGG AGAATCCGAC GGGTTGTTAC TCGCTCACAT	1860





TTAATGTTGA TGAAAGCTGG CTACAGGAAG GCCAGACGCG AATTATTTTT GATGGCGTTA 1920 ACTCGGCGTT TCATCTGTGG TGCAACGGCC GCTGGGTCGG TTACGGCCAG GACAGTCGTT 1980 TGCCGTCTGA ATTTGACCTG AGCGCATTTT TACGCGCCGG AGAAAACCGC CTCGCGGTGA 2040 TGGTGCTGCG TTGGAGTGAC GGCAGTTATC TGGAAGATCA GGATATGTGG CGGATGAGCG 2100 GCATTTTCCG TGACGTCTCG TTGCTGCATA AACCGACTAC ACAAATCAGC GATTTCCATG 2160 TTGCCACTCG CTTTAATGAT GATTTCAGCC GCGCTGTACT GGAGGCTGAA GTTCAGATGT 2220 GCGGCGAGTT GCGTGACTAC CTACGGGTAA CAGTTTCTTT ATGGCAGGGT GAAACGCAGG 2280 TCGCCAGCGG CACCGCGCCT TTCGGCGGTG AAATTATCGA TGAGCGTGGT GGTTATGCCG 2340 ATCGCGTCAC ACTACGTCTG AACGTCGAAA ACCCGAAACT GTGGAGCGCC GAAATCCCGA 2400 ATCTCTATCG TGCGGTGGTT GAACTGCACA CCGCCGACGG CACGCTGATT GAAGCAGAAG 2460 CCTGCGATGT CGGTTTCCGC GAGGTGCGGA TTGAAAATGG TCTGCTGCTG CTGAACGGCA 2520 2580 2640 TGGATGAGCA GACGATGGTG CAGGATATCC TGCTGATGAA GCAGAACAAC TTTAACGCCG TGCGCTGTTC GCATTATCCG AACCATCCGC TGTGGTACAC GCTGTGCGAC CGCTACGGCC 2700 TGTATGTGGT GGATGAAGCC AATATTGAAA CCCACGGCAT GGTGCCAATG AATCGTCTGA 2760 CCGATGATCC GCGCTGGCTA CCGGCGATGA GCGAACGCGT AACGCGAATG GTGCAGCGCG 2820 ATCGTAATCA CCCGAGTGTG ATCATCTGGT CGCTGGGGAA TGAATCAGGC CACGGCGCTA 2880 ATCACGACGC GCTGTATCGC TGGATCAAAT CTGTCGATCC TTCCCGCCCG GTGCAGTATG 2940 AAGGCGGCGG AGCCGACACC ACGGCCACCG ATATTATTTG CCCGATGTAC GCGCGCGTGG 3000 ATGAAGACCA GCCCTTCCCG GCTGTGCCGA AATGGTCCAT CAAAAAATGG CTTTCGCTAC 3060 CTGGAGAGAC GCGCCGCTG ATCCTTTGCG AATACGCCCA CGCGATGGGT AACAGTCTTG 3120 GCGGTTTCGC TARATACTGG CAGGCGTTTC GTCAGTATCC CCGTTTACAG GGCGGCTTCG 3180 TCTGGGACTG GGTGGATCAG TCGCTGATTA AATATGATGA AAACGGCAAC CCGTGGTCGG 3240 CTTACGCCG TGATTTTGGC GATACGCCGA ACGATCGCCA GTTCTGTATG AACGGTCTGG 3300 TCTTTGCCGA CCGCACGCCG CATCCAGCGC TGACGGAAGC AAAACACCAG CAGCAGTTTT 3360 TCCAGTTCCG TTTATCCGGG CAAACCATCG AAGTGACCAG CGAATACCTG TTCCGTCATA 3420 GCGATAACGA GCTCCTGCAC TGGATGGTGG CGCTGGATGG TAAGCCGCTG GCAAGCGGTG 3480 AAGTGCCTCT GGATGTCGCT CCACAAGGTA AACAGTTGAT TGAACTGCCT GAACTACCGC 3540 AGCCGGAGAG CGCCGGGCAA CTCTGGCTCA CAGTACGCGT AGTGCAACCG AACGCGACCG 3600 CATGGTCAGA AGCCGGGCAC ATCAGCGCCT GGCAGCAGTG GCGTCTGGCG GAAAACCTCA 3660 GTGTGACGCT CCCCGCCGCG TCCCACGCCA TCCCGCATCT GACCACCAGC GAAATGGATT 3720 TTTGCATCGA GCTGGGTAAT AAGCGTTGGC AATTTAACCG CCAGTCAGGC TTTCTTTCAC 3780





	TGGCGATAAA					3840
CACCGCTGGA	TAACGACATT	GGCGTAAGTG	AAGCGACCCG	CATTGACCCT	AACGCCTGGG	3900
TCGAACGCTG	GAAGGCGGCG	GGCCATTACC	AGGCCGAAGC	AGCGTTGTTG	CAGTGCACGG	3960
CAGATACACT	TGCTGATGCG	GTGCTGATTA	CGACCGCTCA	CGCGTGGCAG	CATCAGGGGA	4020
AAACCTTATT	TATCAGCCGG	AAAACCTACC	GGATTGATGG	TAGTGGTCAA	ATGGCGATTA	4080
CCGTTGATGT	TGAAGTGGCG	AGCGATACAC	CGCATCCGGC	GCGGATTGGC	CTGAACTGCC	4140
AGCTGGCGCA	GGTAGCAGAG	CGGGTAAACT	GGCTCGGATT	AGGGCCGCAA	GAAAACTATC	4200
CCGACCGCCT	TACTGCCGCC	TGTTTTGACC	GCTGGGATCT	GCCATTGTCA	GACATGTATA	4260
CCCCGTACGT	CTTCCCGAGC	GAAAACGGTC	TGCGCTGCGG	GACGCGCGAA	TTGAATTATG	4320
GCCCACACCA	GTGGCGCGC	GACTTCCAGT	TCAACATCAG	CCGCTACAGT	CAACAGCAAC	4380
TGATGGAAAC	CAGCCATCGC	CATCTGCTGC	ACGCGGAAGA	AGGCACATGG	CTGAATATCG	4440
ACGGTTTCCA	TATGGGGATT	GGTGGCGACG	ACTCCTGGAG	CCCGTCAGTA	TCGGCGGAAT	4500
TACAGCTGAG	CCCCGTCGC	TACCATTACC	AGTTGGTCTG	GTGTCAAAAA	TAATAATAAC	4560
CGGGCAGGCC	ATGTCTGCCC	GTATTTCGCG	TAAGGAAATC	CATTATGTAC	TATTTAAAAA	4620
ACACAAACTT	TTGGATGTTC	GGTTTATTCT	TTTTCTTTTA	CTTTTTTATC	ATGGGAGCCT	4680
	TTTCCCGATT					4740
	TGCCGCTATT					4800
	ACTCGGCCTC					4860
					TATTTGTGAA	4920
					AGTTAACAAC	4980
					TTTTTCGGAT	5040
CCTCTAGAGI	CGAGTAGATA	AGTAGCATGG	CGGGTTAATC	ATTAACTACA	AGGAACCCCT	5100
					CCGGGCGACC	5160
					GAGCGCGCAG	5220
					CTGCGAGTGT	5280
					GCTGAGGCCC	5340
					AGATACAGAT	5400
					AGGTGGGGGT	5460
					CAACTCGTTT	5520
					CGGGGTGCGT	5580
					A CTCTACTACC	5640
					CCCCCCTTCA	5700





GCCGCTGCAG CCACCGCCCG CGGGATTGTG ACTGACTTTG CTTTCCTGAG CCCGCTTGCA 5760 AGCAGTGCAG CTTCCCGTTC ATCCGCCCGC GATGACAAGT TGACGGCTCT TTTGGCACAA 5820 TTGGATTCTT TGACCCGGGA ACTTAATGTC GTTTCTCAGC AGCTGTTGGA TCTGCGCCAG 5880 CAGGTTTCTG CCCTGAAGGC TTCCTCCCCT CCCAATGCGG TTTAAAACAT AAATAAAAAA 5940 CCAGACTCTG TTTGGATTTG GATCAAGCAA GTGTCTTGCT GTCTTTATTT AGGGGTTTTG 6000 6060 CGCGCGCGGT AGGCCCGGGA CCAGCGGTCT CGGTCGTTGA GGGTCCTGTG TATTTTTTCC AGGACGTGGT AAAGGTGACT CTGGATGTTC AGATACATGG GCATAAGCCC GTCTCTGGGG 6120 TGGAGGTAGC ACCACTGCAG AGCTTCATGC TGCGGGGTGG TGTTGTAGAT GATCCAGTCG 6180 TAGCAGGAGC GCTGGGCGTG GTGCCTAAAA ATGTCTTTCA GTAGCAAGCT GATTGCCAGG 6240 GGCAGGCCCT TGGTGTAAGT GTTTACAAAG CGGTTAAGCT GGGATGGGTG CATACGTGGG 6300 GATATGAGAT GCATCTTGGA CTGTATTTTT AGGTTGGCTA TGTTCCCAGC CATATCCCTC 6360 CGGGGATTCA TGTTGTGCAG AACCACCAGC ACAGTGTATC CGGTGCACTT GGGAAATTTG 6420 6480 TCATGTAGCT TAGAAGGAAA TGCGTGGAAG AACTTGGAGA CGCCCTTGTG ACCTCCAAGA TTTTCCATGC ATTCGTCCAT AATGATGGCA ATGGGCCCAC GGGCGGCGGC CTGGGCGAAG 6540 ATATTTCTGG GATCACTAAC GTCATAGTTG TGTTCCAGGA TGAGATCGTC ATAGGCCATT 6600 TTTACAAAGC GCGGGCGGAG GGTGCCAGAC TGCGGTATAA TGGTTCCATC CGGCCCAGGG 6660 GCGTAGTTAC CCTCACAGAT TTGCATTTCC CACGCTTTGA GTTCAGATGG GGGGATCATG 6720 TCTACCTGCG GGGCGATGAA GAAAACGGTT TCCGGGGTAG GGGAGATCAG CTGGGAAGAA 6780 AGCAGGTTCC TGAGCAGCTG CGACTTACCG CAGCCGGTGG GCCCGTAAAT CACACCTATT 6840 6900 ACCGGGTGCA ACTGGTAGTT AAGAGAGCTG CAGCTGCCGT CATCCCTGAG CAGGGGGGCC ACTTCGTTAA GCATGTCCCT GACTCGCATG TTTTCCCTGA CCAAATCCGC CAGAAGGCGC 6960 TCGCCGCCCA GCGATAGCAG TTCTTGCAAG GAAGCAAAGT TTTTCAACGG TTTGAGACCG 7020 7080 TCCGCCGTAG GCATGCTTTT GAGCGTTTGA CCAAGCAGTT CCAGGCGGTC CCACAGCTCG GTCACCTGCT CTACGGCATC TCGATCCAGC ATATCTCCTC GTTTCGCGGG TTGGGGCGGC 7140 TTTCGCTGTA CGGCAGTAGT CGGTGCTCGT CCAGACGGGC CAGGGTCATG TCTTTCCACG 7200 GGCGCAGGGT CCTCGTCAGC GTAGTCTGGG TCACGGTGAA GGGGTGCGCT CCGGGCTGCG 7260 CGCTGGCCAG GGTGCGCTTG AGGCTGGTCC TGCTGGTGCT GAAGCGCTGC CGGTCTTCGC 7320 CCTGCGCGTC GGCCAGGTAG CATTTGACCA TGGTGTCATA GTCCAGCCCC TCCGCGGCGT 7380 GGCCCTTGGC GCGCAGCTTG CCCTTGGAGG AGGCGCCGCA CGAGGGGCAG TGCAGACTTT 7440 TGAGGGCGTA GAGCTTGGGC GCGAGAAATA CCGATTCCGG GGAGTAGGCA TCCGCGCCGC 7500 AGGCCCCGCA GACGGTCTCG CATTCCACGA GCCAGGTGAG CTCTGGCCGT TCGGGGTCAA 7560

ARACCAGGTT TCCCCCATGC TTTTTGATGC GTTTCTTACC TCTGGTTTCC ATGAGCCGGT





GTCCACGCTC GGTGACGAAA AGGCTGTCCG TGTCCCCGTA TACAGACTTG AGAGGCCTGT 7680 CCTCGACCGA TGCCCTTGAG AGCCTTCAAC CCAGTCAGCT CCTTCCGGTG GGCGCGGGGC 7740 ATGACTATCG TCGCCGCACT TATGACTGTC TTCTTTATCA TGCAACTCGT AGGACAGGTG 7800 CCGGCAGCGC TCTGGGTCAT TTTCGGCGAG GACCGCTTTC GCTGGAGCGC GACGATGATC 7860 GGCCTGTCGC TTGCGGTATT CGGAATCTTG CACGCCCTCG CTCAAGCCTT CGTCACTGGT 7920 CCCGCCACCA AACGTTTCGG CGAGAAGCAG GCCATTATCG CCGGCATGGC GGCCGACGCG 7980 CTGGGCTACG TCTTGCTGGC GTTCGCGACG CGAGGCTGGA TGGCCTTCCC CATTATGATT 8040 CTTCTCGCTT CCGGCGCAT CGGGATGCCC GCGTTGCAGG CCATGCTGTC CAGGCAGGTA 8100 GATGACGACC ATCAGGGACA GCTTCAAGGA TCGCTCGCGG CTCTTACCAG CCTAACTTCG 8160 ATCACTGGAC CGCTGATCGT CACGGCGATT TATGCCGCCT CGGCGAGCAC ATGGAACGGG 8220 TTGGCATGGA TTGTAGGCGC CGCCCTATAC CTTGTCTGCC TCCCCGCGTT GCGTCGCGGT 8280 GCATGGAGCC GGGCCACCTC GACCTGAATG GAAGCCGGCG GCACCTCGCT AACGGATTCA 8340 CCACTCCAAG AATTGGAGCC AATCAATTCT TGCGGAGAAC TGTGAATGCG CAAACCAACC 8400 CTTGGCAGAA CATATCCATC GCGTCCGCCA TCTCCAGCAG CCGCACGCGG CGCATCTCGG 8460 GCAGCGTTGG GTCCTGGCCA CGGGTGCGCA TGATCGTGCT CCTGTCGTTG AGGACCCGGC 8520 TAGGCTGGCG GGGTTGCCTT ACTGGTTAGC AGAATGAATC ACCGATACGC GAGCGAACGT 8580 GAAGCGACTG CTGCTGCAAA ACGTCTGCGA CCTGAGCAAC AACATGAATG GTCTTCGGTT 8640 TCCGTGTTTC GTAAAGTCTG GAAACGCGGA AGTCAGCGCC CTGCACCATT ATGTTCCGGA 8700 TCTGCATCGC AGGATGCTGC TGGCTACCCT GTGGAACACC TACATCTGTA TTAACGAAGC 8760 CTTTCTCAAT GCTCACGCTG TAGGTATCTC AGTTCGGTGT AGGTCGTTCG CTCCAAGCTG 8820 GGCTGTGTGC ACGAACCCCC CGTTCAGCCC GACCGCTGCG CCTTATCCGG TAACTATCGT 8880 CTTGAGTCCA ACCCGGTAAG ACACGACTTA TCGCCACTGG CAGCAGCCAC TGGTAACAGG 8940 ATTAGCAGAG CGAGGTATGT AGGCGGTGCT ACAGAGTTCT TGAAGTGGTG GCCTAACTAC 9000 GGCTACACTA GAAGGACAGT ATTTGGTATC TGCGCTCTGC TGAAGCCAGT TACCTTCGGA 9060 ARAAGAGTTG GTAGCTCTTG ATCCGGCAAA CAAACCACCG CTGGTAGCGG TGGTTTTTTT 9120 GTTTGCAAGC AGCAGATTAC GCGCAGAAAA AAAGGATCTC AAGAAGATCC TTTGATCTTT 9180 TCTACGGGGT CTGACGCTCA GTGGAACGAA AACTCACGTT AAGGGATTTT GGTCATGAGA 9240 9300 TAAAGTATAT ATGAGTAAAC TTGGTCTGAC AGTTACCAAT GCTTAATCAG TGAGGCACCT 9360 ATCTCAGCGA TCTGTCTATT TCGTTCATCC ATAGTTGCCT GACTCCCCGT CGTGTAGATA 9420 ACTACGATAC GGGAGGGCTT ACCATCTGGC CCCAGTGCTG CAATGATACC GCGAGACCCA 9480

CGCTCACCGG CTCCAGATTT ATCAGCAATA AACCAGCCAG CCGGAAGGGC CGAGCGCAGA





AGTGGTCCTG	CAACTTTATC	CGCCTCCATC	CAGTCTATTA	ATTGTTGCCG	GGAAGCTAGA	9600
GTAAGTAGTT	CGCCAGTTAA	TAGTTTGCGC	AACGTTGTTG	CCATTGCTGC	AGGCATCGTG	9660
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GTTACATGAT	CCCCATGTT	GTGCAAAAAA	GCGGTTAGCT	CCTTCGGTCC	TCCGATCGTT	9780
GTCAGAAGTA	AGTTGGCCGC	AGTGTTATCA	CTCATGGTTA	TGGCAGCACT	GCATAATTCT	9840
CTTACTGTCA	TGCCATCCGT	AAGATGCTTT	TCTGTGACTG	GTGAGTACTC	AACCAAGTCA	9900
TTCTGAGAAT	AGTGTATGCG	GCGACCGAGT	TGCTCTTGCC	CGGCGTCAAC	ACGGGATAAT	9960
ACCGCGCCAC	ATAGCAGAAC	TTTAAAAGTG	CTCATCATTG	GAAAACGTTC	TTCGGGGCGA	10020
AAACTCTCAA	GGATCTTACC	GCTGTTGAGA	TCCAGTTCGA	TGTAACCCAC	TCGTGCACCC	10080
AACTGATCTT	CAGCATCTTT	TACTTTCACC	AGCGTTTCTG	GGTGAGCAAA	AACAGGAAGG	10140
CAAAATGCCG	CAAAAAAGGG	AATAAGGGCG	ACACGGAAAT	GTTGAATACT	CATACTCTTC	10200
CTTTTTCAAT	ATTATTGAAG	CATTTATCAG	GGTTATTGTC	TCATGAGCGG	ATACATATTT	10260
GAATGTATTT	AGAAAAATAA	ACAAATAGGG	GTTCCGCGCA	CATTTCCCCG	AAAAGTGCCA	10320
CCTGACGTCT	AAGAAACCAT	TATTATCATG	ACATTAACCT	ATAAAAATAG	GCGTATCACG	10380
AGGCCCTTTC	GTCTTCAA					10398

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single (D) TOPOLOGY: unknown
- (ii) MOLECULE TYPE: other nucleic acid
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

CATGGTAATA GCGATGACTA

20

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: unknown
- (ii) MOLECULE TYPE: other nucleic acid
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

- (2) INFORMATION FOR SEQ ID NO:4:
 - (i) SEQUENCE CHARACTERISTICS:

 (A) LENGTH: 20 base pairs

 (B) TYPE: nucleic acid

 (C) STRANDEDNESS: single

 (D) TOPOLOGY: unknown
 - (ii) MOLECULE TYPE: other nucleic acid
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

ATAAGCTGCA ATAAACAAGT